

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

Filing Date

March 25, 2004

First Named Inventor

Lee, Tzu-Chen

Art Unit

2811

Examiner Name

Hung K. Vu

Attorney Case Number

58994US002

(Use as many sheets as necessary)

Page 1 of 4



U.S. Patent Documents

Exam. Init.*	Cite No.	Document Number	Publication Date or Issue Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Doc. Number-(Kind Code if Known)			
<u>V_u</u>	A1	US- 2003/0105365 A1	06/05/2003	Smith et al.	
<u>V_u</u>	A2	US- 6,114,088	09/05/2000	Wolk et al.	
	A3	US-			
	A4	US-			
	A5	US-			
	A6	US-			
	A7	US-			
	A8	US-			
	A9	US-			
	A10	US-			
	A11	US-			

Foreign Patent Documents

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		Clty. Code	Number-Kind Code (If known)				
<u>V_u</u>	B1	EP	1 017 118 A2	07/05/2000	—	—	
<u>V_u</u>	B2	WO	00/17911 A1	03/30/2000	—	—	
	B3						
	B4						
	B5						
	B6						
	B7						

OTHER DOCUMENTS

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<u>V_u</u>	C1	E. A. Silinsh and V. Capek, "Organic Molecular Crystals" AIP Press, New York, 1994.	

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Page 2 of 4

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✓	C2	Y. Shirota, T. Kobata, and N. Noma, "Starburst Molecules For Amorphous Molecular Materials, 4,4',4"-tris(N,N-diphenylamino)triphenylamine and 4,4'4"-Tris(N-(3-methylphenyl)-N-phenylamino)triphenylamine", Chemistry Letters, The Chemical Society of Japan, Vol. 7, pp. 1145 - 1148, 1989.	
	C3	Yasuhiko Shirota, "Organic Materials for Electronic and Optoelectronic Devices", Journal of Materials Chemistry, Vol. 10, pp. 1 - 25, 2000.	
	C4	M. Pfeiffer, A. Beyer, T. Frit, and K. Leo, "A Controlled Doping Of Phthalocyanine Layers By Cosublimation With Acceptor Molecules: A Systematic Seebeck And Conductivity Study", Applied Physics Letters, Vol. 73, No. 22, pp. 3202 - 3204, November 30, 1998.	
	C5	X. Zhou, J. Blochwitz, M. Pfeiffer, A. Nollau, T. Fritz, and K. Leo, "Enhanced Hole Injection Into Amorphous Hole-Transport Layers Of Organic Light-Emitting Diodes Using Controlled P-Type Doping." Advanced Functional Materials, Vol. 11, No.4, pp. 310 - 314, August 2001	
	C6	X. Zhou, M. Pfeiffer, J. Blochwitz, A. Werner, A. Nollau, T. Fritz, and K. Leo, "Very-Low-Operating-Voltage Organic Light-Emitting Diodes Using A P-Doped Amorphous Hole Injection Layer." Applied Physics Letters, Vol. 78, No. 4, pp. 410 - 412, January 22, 2001.	
	C7	S. M. Sze, Physics of Semiconduct of Devices, Second Edition, John Wiley & Sons, Inc. 1981.	
	C8	Y. S. Lee, J. H. Park, J. S. Choi, "Electrical Characteristics Of Pentacene-Based Schottky Diodes", Optical Materials, Vol. 21, pp. 433 - 437, 2002.	
✓	C9	J. Blochwitz, M. Pfeiffer, T. Fritz, K. Leo, "Low Voltage Organic Light Emitting Diodes Featuring Doped Phthalocyanine As Hole Transport Material", Applied Physics Letters, Vol. 73, No. 6, pp. 729 - 731, August 10, 1998.	

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Page 3 of 4

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<input checked="" type="checkbox"/>	C10	J. Dreschel, M. Pfeiffer, X. Zhou, A. Nollau, K. Leo, "Organic Mip-Diodes By p-Doping Of Amorphous Wide-Gap Semiconductors: CV and Impedance Spectroscopy", Synthetic Metals, Vol. 127, pp. 201 - 205, March 2002.	
<input type="checkbox"/>	C11	A. R. Brown, D. M. de Leeuw, E. E. Havinga, A. Pomp, "A Universal Relation Between Conductivity And Field-Effect Mobility In Doped Amorphous Organic Semiconductors", Synthetic Metals, Vol. 68, pp. 65 - 70, 1994.	
<input type="checkbox"/>	C12	C. P. Jarrett, R. H. Friend, A. R. Brown, and D. M. de Leeuw, "Field Effect Measurements In Doped Conjugated Polymer Films: Assessment Of Charge Carrier Mobilities", Journal of Applied Physics, Vol. 77, No. 12, pp. 6289 - 6294, June 15, 1995.	
<input type="checkbox"/>	C13	J. Paloheimo, P. Kulvalainen, H. Stubb, E. Vuorimaa, and P. Yli-Lahti, Appl. Phys. Lett., "Molecular Field-Effect Transistors Using Conducting Polymer Langmuir-Blodgett Films", Vol. 56, No. 12, pp. 1157 - 1159, March 19, 1990.	
<input type="checkbox"/>	C14	K. Hoshimono, S. Fujimori, S. Fujita, and S. Fujita, "Semiconductor-Like Carrier Conduction and Its Field-Effect Mobility in Metal-Doped C ₆₀ Thin Films", Japanese Journal of Applied. Physics, Vol. 32, No. 8A, pp. L1070 - L1073, August 1, 1993.	
<input type="checkbox"/>	C15	A. Nollau, M. Pfeiffer, T. Fritz, and K. Leo. Journal of Applied Physics, "Controlled n-Type Of Doping Of A Molecular Organic Semiconductor: Naphthalenetetracarboxylic Dianhydride (NTCDA) Doped With bis(ethylenedithio)-tetrathiafulvalene (BEDT-TTF)", Vol. 87, No. 9, pp. 4340 - 4343, May 1, 2000.	
<input checked="" type="checkbox"/>	C16	A. Werner, F. Li, K. Harada, M. Pfeiffer, T. Fritz, K. Leo, and S. Machill, "n-Type Doping of Organic Thin Films Using Cationic Dyes", Advanced Functional Materials, Vol. 14, No. 3, pp. 255 - 260, March 2004.	

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Page 4 of 4

Application Number	10/809135
Filing Date	March 25, 2004
First Named Inventor	Lee, Tzu-Chen
Art Unit	2811
Examiner Name	Hung K. Vu
Attorney Case Number	58994US002

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<u>Vu</u>	C17	Z. Bao, A. J. Lovinger, and J. Brown, "New Air-Stable <i>n</i> -Channel Organic Thin Film Transistors", Journal of the American Chemical Society, Vol. 120, No. 1, pp. 207 – 208, 1998.	
	C18	P. R. L. Malenfant, C. D. Dimitrakopoulos, J. Gelorme, L. L. Kosbar, and T. O. Graham, "N-Type Organic Thin-Film Transistor With High Field-Effect Mobility Based On A N,N'-dialkyl-3,4,9,10-perylene Tetracarboxylic Diimide Derivative", Applied Physics Letters., Vol. 80, No. 14, pp. 2517 – 2519, April 8, 2002.	
	C19	U.S.S.N. 10/620027 filed July 15, 2003, entitled "Bis(2-Acenyl)Acetylene Semiconductors"	
<u>Vu</u>	C20	U.S.S.N. 10/641730, filed August 15, 2003, entitled "Acene-Thiophene Semiconductors"	
	C21		

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Substitute for form 1449A/PTO (modified)

Application Number

10/809135

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✓	C1	PFEIFFER, "Doped Organic Semiconductors: Physics and Application in Light Emitting Diodes", Organic Electronics, (2003), pp. 89-103, Vol. 4, Elsevier B. V.	
	C2	BLOCHWITZ, "Non-Polymeric OLEDs With a Doped Amorphous Hole Transport Layer and Operating Voltages Down to 3.2 V to Achieve 100 cd/m ² ", Synthetic Metals, (2002), pp. 169-173, Vol. 127, Elsevier Science B. V.	
	C3	ROMAN, "Polymer Diodes With High Rectification", Applied Physics Letters, (November 29, 1999), pp. 3557-3559, Vol. 75, No. 22, American Institute of Physics	
	C4	OUYANG, "On the Mechanism of Conductivity Enhancement in Poly(3,4-ethylenedioxythiophene):Poly(styrene sulfonate) Film Through Solvent Treatment", Polymer, (2004), pp. 8443-8450, Vol. 45	
✓	C5	IONESCU-ZANETTI, "Semiconductive Polymer Blends: Correlating Structure With Transport Properties at the Nanoscale", Advanced Materials, (March 5, 2004), pp. 385-389, Vol. 16, No. 5, Wiley-VCH Verlag GmbH & Co. KGaA, Weinheim	

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